

IN THE SPECIFICATION

Please replace the paragraph [0005] beginning at page 2, line 14, with the following rewritten paragraph:

[0005] As a method for measuring the shape, there is a method shown in Figs. 56 and 57. In this method, in a state in which the external peripheral surface 12 of portions near both ends of the tubular body 90 are supported by reference rollers 91, displacement measuring devices 92 are brought into contact with three positions on the longitudinal central portion of the external peripheral surface of the tubular body [[90]] 10. Then, the tubular body [[90]] 10 is rotated by rotating the reference rollers 91 to obtain the variation of the detected values of the displacement measuring devices 92. Using the detected values, the displacement at the longitudinal central portions of the external peripheral surface of the tubular body [[90]] 10 is measured. Such obtained displacement reflects the deflection of the central external peripheral surface with respect to the external peripheral surfaces of the longitudinal end portions of the tubular body [[90]] 10.

Please replace the paragraph [0006] beginning at page 3, line 1, with the following rewritten paragraph:

[0006] In cases where the tubular body [[90]] 10 is rotatably supported at the inner peripheral surfaces of the end portions, the thickness distribution (unevenness of thickness) of the tubular body [[90]] 10 affects the accuracy of rotation. Accordingly, in cases where high precision of shape is required, it can be considered that it is evaluated taking account of the degree of unevenness of thickness by measuring the maximum thickness and the minimum thickness of the tubular body [[90]] 10.

Please replace the paragraph [0007] beginning at page 3, line 8, with the following rewritten paragraph:

[0007] However, the method for measuring the shape of the tubular body using the deflection measurement of the external peripheral surface of the tubular body ~~[[90]]~~ 10 shown in Figs. 56 and 57 and the thickness measurement using thickness measuring devices has the following problems.

Please replace the paragraph [0036] beginning at page 17, line 10, with the following rewritten paragraph:

[0036] Fig. 8C is a cross-sectional explanatory view showing the status of ~~the uneven thickness tube~~ the flat tube 103 which is being rotated in a state in which a pair of reference portions 20 and 20 are in contact with the internal peripheral surface of the tubular body (flat tube) 103.

Please replace the paragraph [0037] beginning at page 17, line 15, with the following rewritten paragraph:

[0037] ~~Fig. 9 is~~ Figs. 9A, 9B and 9C are graphs showing examples of results of displacement of the external peripheral surface of the tubular body (work) 10 to be measured detected while rotating the tubular body (work).

Please replace the paragraph [0047] beginning at page 18, line 9, with the following rewritten paragraph:

[0047] ~~Fig. 16 is an explanatory view~~ Figs. 16A, 16B and 16C are explanatory views of the setting procedures of a tubular body (work) in the apparatus 4.

Please replace the paragraph [0073] beginning at page 20, line 21, with the following rewritten paragraph:

[0073] Fig. 38 is a modified embodiment of correcting roller arrangement including one inner correcting roller 911, two outer correcting rollers 912 and [[913]] 912 disposed at the lower side of the tubular body 10 and an outer correcting roller [[914]] 913 disposed at the upper side of the tubular body 10.

Please replace the paragraph [0078] beginning at page 21, line 17, with the following rewritten paragraph:

[0078] Fig. 43 a modified embodiment of correcting roller arrangement in which a number of correcting rollers [[96]] 960 in contact with the external peripheral surface of the tubular body 10 are used to correct the tubular body.

Please replace the paragraph [0264] beginning at page 77, line 2, with the following rewritten paragraph:

[0264] When the pair of reference rollers 52 [[an]] and 52 come into contact with the internal peripheral surface [[10]] 11 of the tubular body 10, the tubular body 10 is pressed against the pair of reference rollers 52 and 52 at a predetermined pressure. With this state, the driving motors 545 and 545 rotate the tubular body 10 via the coupling rollers 544 and the supporting rollers 54 and 54.

Please replace the paragraph [0301] beginning at page 87, line 3, with the following rewritten paragraph:

[0301] The supporting roller support member 543 is supported by the swing member 571. This swing member 571 is supported in a pivotable manner by the supporting

shaft (fulcrum) 572 at the longitudinal central position thereof. This swing member 571 is provided at its one end thereof with an elongated hole 573 to which the supporting roller support member 543 is attached in a pivotable manner. This attachment allows the supporting roller support member 543 to be slid up and down.

Please replace the paragraph [0303] beginning at page 87, line 22, with the following rewritten paragraph:

[0303] This weight 574 is screwed into the other end of the swing member 571 via the screw portion 575 so that the distance between the supporting shaft (fulcrum) of the swing member 571 and the weight 574 can be adjusted by adjusting the screwed amount. That is, this screw portion 575 functions as a weight position adjusting means. Because of this attaching structure, it is possible to adjust such that the weight 574 is balanced with the supporting roller support member 543, etc. Therefore, even in cases where the tubular body 10 as a shape measuring object, the supporting roller 54, etc. are changed in size, etc., this apparatus can cope with such a change.

Please replace the paragraph [0325] beginning at page 92, line 25, with the following rewritten paragraph:

[0325] In this fifth embodiment, in the structure shown in Fig. 28, the weight and the position of the weight 574 are set such that the moment about the supporting shaft 572 by the weight 574 becomes larger than that by the supporting roller support member 543 in the state in which the air cylinder 576 is not driven. In this state, the tubular body 10 on the supporting rollers 54 and 54 is pressed against the reference rollers 52 and 52 at a prescribed pressure. That is, in the fifth embodiment, the swing member 571 and the weight 574 urge the supporting roller support member 543, etc. upward, and functions as a

pressing means for pressing the tubular body 10 against the reference roller 52 via the supporting rollers 54 and 54 at a prescribed pressure.

Please replace the paragraph [0410] beginning at page 112, line 10, with the following rewritten paragraph:

[0410] (2-6) As shown in Fig. 43, it can be configured such that a number of correcting rollers [[96]] 960 (eight in this example) are disposed so as to come into contact with the external or internal peripheral surface of the tubular body 10 to correct the shape. Disposing four or more correcting rollers inside or outside the tubular body 10 enables an appropriate correction with respect to a triangular shape.

Please replace the paragraph [0413] beginning at page 112, line 26, with the following rewritten paragraph:

[0413] (5) In the ninth embodiment, although the shape measurement is performed with the axial direction of the tubular body 10 disposed approximately horizontally, the shape measurement can be performed with the axial direction disposed approximately ~~horizontally~~ vertically. In this case, the deformation of the tubular body 10 due to its own weight can be decreased.

Please replace the paragraph [0436] beginning at page 118, line 16, with the following rewritten paragraph:

[0436] The lifting cylinder 546 lifts the tubular body 10 together with the supporting roller support member 543 and the outer correcting rollers 54 and presses the outer correcting roller support member 543 against the stopper 548 with a large enough pressing force, to thereby fix the position of the outer correcting roller 54 to the correcting

position. The aforementioned large enough pressing force means a force capable of causing partial plastic deformation of the tubular body 10 when the tubular body 10 is lifted by the outer correcting rollers 54. The tubular body 10 is pinched by and between the inner correcting roller 52 and the outer correcting rollers 54. As mentioned above, the position of the outer correcting rollers 54 and 54 are fixed to the respective correcting position, eliminating the need of complicated control at the time of performing the shape correction of the end portion 13 of the tubular body 10.

Please replace the paragraph [0438] beginning at page 119, line 17, with the following rewritten paragraph:

[0438] Furthermore, at the time of performing the shape measurement of the tubular element 10 after the correction of the end portions 13 and 13 of the tubular body 10, the outer correcting roller support member 543 is detached from the stopper 548 to press the tubular body 10 against the inner correcting roller 52 by weak pressing force via the outer correcting rollers 54. At this time, the outer correcting rollers 54 and the inner correcting roller 52 become a state in which both of them are pressed against the tubular body 10 by the weak pressing force. The weak pressing force means a pressing force which does not cause substantial deformation of the end portion 13 of the tubular body 10.

Please replace the paragraph [0479] beginning at page 129, line 21, with the following rewritten paragraph:

[0479] In this embodiment, in concrete, O-rings 684 and 684 are fitted in the grooves formed along the entire circumference of the clamp main body 67 so as to closely come into contact with the external peripheral surface (groove) of the clamp main body 67 and the internal peripheral surface of the expansion ring 685 to seal the expansion chamber

[[6833]] 683. This o-ring 684 is in an inwardly pressed state by the expansion ring 685 in a normal state. When the expansion ring 685 is expanded in the radial direction, the o-ring 684 deforms so as to increase the external diameter while keeping the close contact with the internal peripheral surface of the expansion ring 685, maintaining the sealing state between the expansion ring 685 and the external peripheral surface of the smaller diameter portion 672 of the clamp main body 67. As a material of the o-ring 684, rubber can be exemplified, but any other material can be employed as long as it is an elastic material that can be served as the aforementioned o-ring.